

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

IN RE FLINT WATER CASES

Case No. 5:16-cv-10444-JEL-EAS
Hon. Judith E. Levy, District Judge

This Document Relates To:
BELLWETHER III

Case No. 5:17-cv-10164-JEL-KGA

**DEFENDANTS VEOLIA NORTH AMERICA, LLC, VEOLIA NORTH
AMERICA, INC., AND VEOLIA WATER NORTH AMERICA
OPERATING SERVICES, LLC’S MOTION TO EXCLUDE CERTAIN
OPINIONS AND TESTIMONY OF DR. WILLIAM G. BITHONEY**

Pursuant to Federal Rules of Evidence 702, Defendants Veolia North America, LLC, Veolia North America, Inc., and Veolia Water North America Operating Services, LLC (VNA) move to exclude certain opinions and testimony of Dr. William G. Bithoney.

VNA moves to exclude Dr. Bithoney’s general-causation opinions that exposure to lead is capable of causing various clinical disorders diagnosed by Plaintiffs’ neuropsychology experts, Dr. Mira Jourdan and Dr. Edward Hoffman, because he does not provide sufficient reliable evidence of an association between lead exposure and those disorders. VNA also moves to exclude Dr. Bithoney’s specific-causation opinions that Plaintiffs’ injuries were caused by their exposure to lead from Flint water. Those opinions are not based on sufficient reliable evidence of either the amount or the source of any lead to which Plaintiffs were exposed.

Further, Dr. Bithoney does not reliably rule out alternative causes of Plaintiffs' conditions or alternative sources of lead exposure.

VNA previously moved to exclude similar opinions and testimony in Bellwether I. The Court granted VNA's motion in part and denied it in part. Opinion and Order on VNA's Motion to Exclude Bithoney, ECF No. 487, PageID.36864.

As Local Rule 7.1(a) requires, on April 1, 2024, VNA sent counsel for Bellwether III Plaintiffs an email identifying each of the points raised in this motion. That same day, counsel for the Bellwether III Plaintiffs said that they did not concur in the motion.

CAMPBELL, CONROY & O'NEIL P.C MAYER BROWN LLP

By: /s/ James M. Campbell
James M. Campbell
Alaina N. Devine
20 City Square, Suite 300
Boston, MA 02129
(617) 241-3000
jmcampbell@campbell-trial-lawyers.com
adevine@campbell-trial-lawyers.com

By: /s/ Michael A. Olsen
Michael A. Olsen
71 S. Wacker Dr.
Chicago, IL 60606
(312) 701-7120
molsen@mayerbrown.com

*Attorneys for Veolia North America, LLC, Veolia North America, Inc., and
Veolia Water North America Operating Services, LLC*

Dated: April 3, 2024

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

IN RE FLINT WATER LITIGATION

Case No. 5:16-cv-10444-JEL-EAS
Hon. Judith E. Levy

This Document Relates To:
BELLWETHER III

Case No. 5:17-cv-10164-JEL-KGA

**DEFENDANTS VEOLIA NORTH AMERICA, LLC, VEOLIA NORTH
AMERICA, INC., AND VEOLIA WATER NORTH AMERICA
OPERATING SERVICES, LLC'S BRIEF IN SUPPORT OF THEIR
MOTION TO EXCLUDE CERTAIN OPINIONS AND TESTIMONY OF
DR. WILLIAM G. BITHONEY**

STATEMENT OF THE ISSUE PRESENTED

1. Should the Court exclude Dr. Bithoney's opinions that lead exposure can cause [REDACTED] because [REDACTED] they are not supported by sufficient facts and data?

VNA answers: "Yes."

Plaintiffs answer: "No."

2. Should the Court exclude Dr. Bithoney's opinions that exposure to lead, and in particular exposure to lead in Flint water during the relevant time period, caused Plaintiffs' alleged injuries because Dr. Bithoney lacks sufficient facts and data to conclude that Plaintiffs were exposed to a sufficient level of lead to cause their injuries and because Dr. Bithoney fails to adequately rule out other potential causes, including other potential sources of lead?

VNA answers: "Yes."

Plaintiffs answer: "No."

CONTROLLING OR MOST APPROPRIATE AUTHORITIES

Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993)

Lowery v. Enbridge Energy Ltd. P'Ship, 500 Mich. 1034 (2017)

Nelson v. Tenn. Gas Pipeline Co., 243 F.3d 244 (6th Cir. 2001)

Pluck v. BP Oil Pipeline Co., 640 F.3d 671 (6th Cir. 2011)

Tamraz v. Lincoln Elec. Co., 620 F.3d 665 (6th Cir. 2010)

Fed. R. Evid. 702

TABLE OF CONTENTS

	Page
INTRODUCTION	1
BACKGROUND	2
LEGAL STANDARD.....	5
ARGUMENT	5
I. SOME OF DR. BITHONEY’S GENERAL-CAUSATION OPINIONS ARE UNRELIABLE	6
II. DR. BITHONEY’S SPECIFIC-CAUSATION OPINIONS THAT PLAINTIFFS’ CONDITIONS WERE CAUSED BY LEAD FROM FLINT WATER ARE UNRELIABLE	9
A. Dr. Bithoney’s Opinion That Plaintiffs Were Exposed To Sufficient Amounts Of Lead From Flint Water To Cause Their Conditions Is Unreliable.....	9
1. Dr. Bithoney’s Opinions Are Not Based On Reliable Evidence Of The Level Of Exposure Necessary To Cause Plaintiffs’ Various Conditions	10
2. Dr. Bithoney Fails To Present Reliable Evidence Of The Amount Of Lead Exposure Attributable To Flint Water.....	12
a. Dr. Bithoney Has No Evidence Of Actual Lead Levels In Plaintiffs’ Drinking Water	12
b. Plaintiffs’ Blood Lead Levels and Bone Lead Levels.....	14
c. Epidemiological Evidence Of Elevated Water And Blood Lead Levels During The Water Crisis.....	17
B. Dr. Bithoney Did Not Perform A Reliable Differential Etiology	18
1. Dr. Bithoney Did Not Reliably Rule Out Alternative Causes Of Plaintiffs’ Conditions	19
2. Dr. Bithoney Did Not Reliably Rule Out Alternative Sources Of Lead Exposure.....	23
CONCLUSION	25

INTRODUCTION

Dr. William Bithoney, a medical doctor, is one of Plaintiffs' expert witnesses on general and specific causation. Dr. Bithoney opines that Plaintiffs' alleged injuries were caused by their exposure to lead in Flint drinking water during the water crisis. VNA seeks to exclude several of Dr. Bithoney's general-causation opinions and all of his specific-causation opinions because they do not satisfy the requirements of Federal Rule of Evidence 702.

First, Dr. Bithoney's opinions that lead exposure can cause certain conditions are not based on adequate scientific evidence. With respect to Plaintiffs' diagnoses of [REDACTED]

[REDACTED], Dr. Bithoney does not cite any studies that found an association between lead exposure and these clinical conditions. Dr. Bithoney's failure to cite any such research renders his opinions that lead can cause those conditions unreliable.

Second, Dr. Bithoney's specific-causation opinions are inadmissible because he does not reliably demonstrate that exposure to lead in Flint's water is a possible cause of Plaintiffs' alleged conditions and does not exclude other possible causes of those conditions. Dr. Bithoney does not identify the level of exposure at which lead is capable of causing Plaintiffs' various conditions and does not present reliable evidence demonstrating that Plaintiffs were exposed to lead at or above those levels.

Moreover, in order to establish that lead in Flint's water supply during the water crisis caused Plaintiffs' conditions, Dr. Bithoney had to rule out other alternative causes and other alternative sources of lead exposure. He did not do that either. Accordingly, the Court should exclude Dr. Bithoney's opinions that exposure to lead caused Plaintiffs' alleged conditions and that Flint drinking water during the water crisis was the source of the exposures that caused Plaintiffs' injuries.

VNA moved to exclude similar general- and specific-causation opinions that Dr. Bithoney offered in Bellwether I. The Court granted VNA's motion to exclude Dr. Bithoney's general-causation opinions that lead can cause [REDACTED]

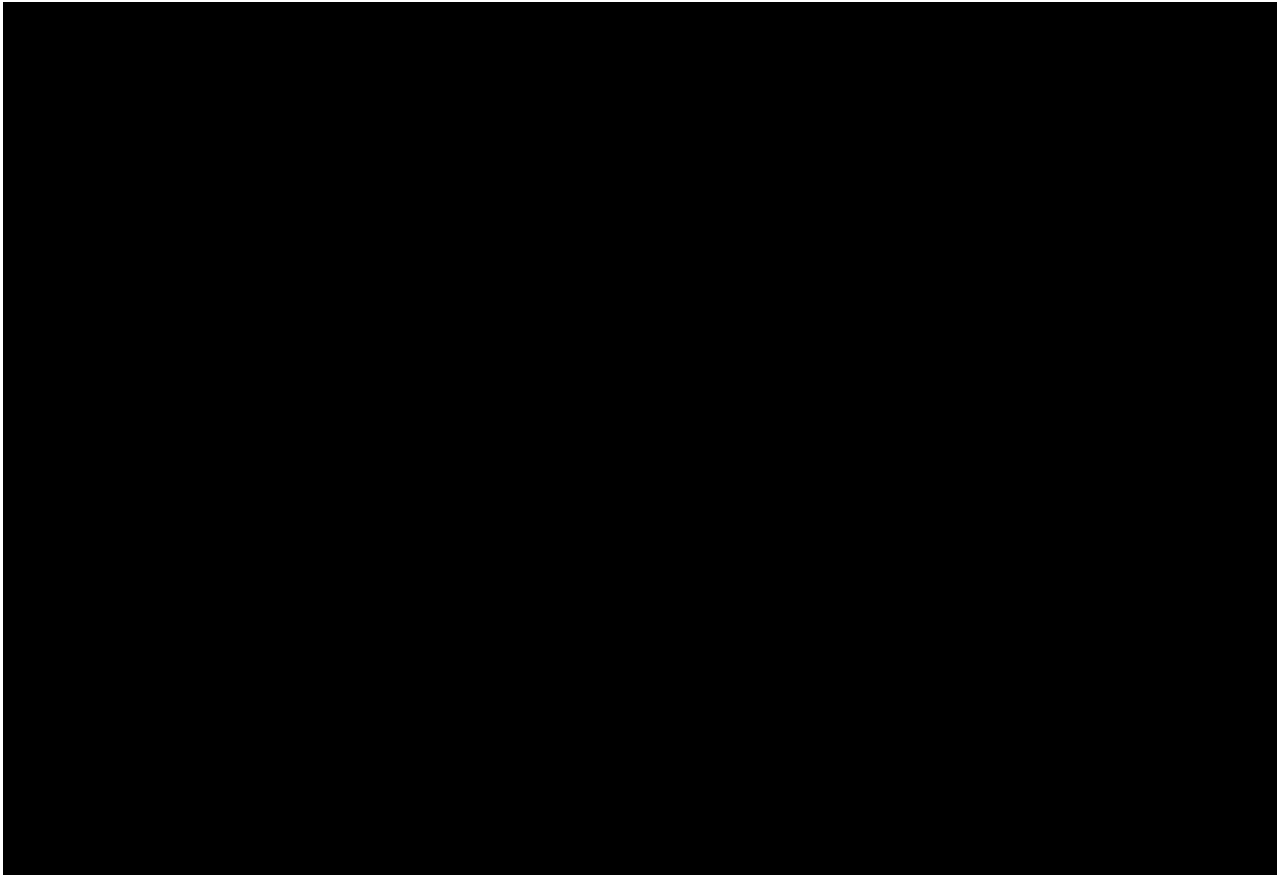
[REDACTED]¹ The Court denied VNA's motion to exclude Dr. Bithoney's specific-causation opinions that lead in Flint's water during the water crisis caused the Bellwether I Plaintiffs' injuries.

BACKGROUND

Dr. Bithoney opines that Plaintiffs' alleged injuries were caused by their exposure to lead in Flint's water during the 18-month period when Flint was relying on the Flint River as its water source. Dr. Bithoney did not diagnose Plaintiffs'

¹ The Court denied VNA's motion to exclude Dr. Bithoney's testimony that lead can cause [REDACTED] Opinion and Order on VNA's Motion to Exclude Bithoney (Bithoney BWI Order) 18, ECF No. 487, PageID.36881. VNA incorporates by reference and preserves for appeal its previous argument that this opinion is unreliable and should be excluded. *See* Br. in Supp. of VNA Mot. to Exclude Bithoney (Bithoney BWI Mot.) 12-16, ECF No. 335, PageID.19834-19838. But VNA does not repeat that argument here.

injuries himself. Instead, he relied on the diagnoses of Plaintiffs' neuropsychology experts, Dr. Mira Jourdan and Dr. Robert Hoffman. Ex. 9, Rebuttal Report 4. Dr. Bithoney states that the following conditions, diagnosed by Dr. Jourdan and Dr. Hoffman, were caused by exposure to lead in Flint's water:



Id.

As support for his opinion that lead exposure is capable of causing each of these various conditions, Dr. Bithoney discusses a number of studies that found associations between low levels of lead exposure (*i.e.*, below 5 mcg/dL) and various cognitive and behavioral impairments, including some of the conditions that Dr. Jourdan and Dr. Hoffman diagnosed. Rebuttal Report 2-4. However, Dr. Bithoney

fails to identify any studies finding an association between low levels of lead exposure and other conditions that Dr. Jourdan and Dr. Hoffman diagnosed.

With respect to Plaintiffs' lead exposures, Dr. Bithoney provides no opinions about the actual amount of lead from Flint drinking water that Plaintiffs ingested. He cites a study conducted by researchers from Virginia Tech that found elevated levels of lead in a number of Flint homes during the water crisis, *see* Ex. 2, Report (E.A.) 5 (discussing Flint Water Study), but he does not state that any Plaintiff lived in any of the homes tested. Dr. Bithoney also references Plaintiffs' blood and bone lead level tests, but he relies only on the bone lead results as evidence that Plaintiffs were exposed to elevated levels of lead. Specifically, he states that each Plaintiff's bone lead level is [REDACTED]

Report (E.A.); 2-3; Ex. 3, Report (Y.A.) 5; Ex. 4, Report (G.B.) 5; Ex. 5, Report (C.D.) 3; Ex. 6, Report (R.E.) 9; Ex. 7, Report (J.N.) 8; Ex. 8, Report (J.S.) 6. Dr. Bithoney does not contend that Plaintiffs' blood lead levels [REDACTED]

Finally, Dr. Bithoney states in his rebuttal report that he eliminated alternative sources of lead exposure and alternative causes of Plaintiffs' conditions through "[c]areful investigation and differential diagnosis." Rebuttal Report 8-9. He states that this process involved reviewing Plaintiffs' medical records, interviewing Plaintiffs' parents regarding their habits, and taking a medical, familial, and educational history. *Id.*

LEGAL STANDARD

District courts have a “basic gatekeeping obligation” to ensure that expert testimony is “relevant to the task at hand” and “rests on a reliable foundation.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141, 147 (1999) (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993)). A qualified expert may provide opinion testimony only if it will “help the trier of fact to understand the evidence or to determine a fact in issue.” Fed. R. Evid. 702(a). The expert opinion also must be “based on sufficient facts or data,” must be “the product of reliable principles and methods,” and must be the result of the expert “reliabl[y] appl[y]ing the principles and methods to the facts of the case.” Fed. R. Evid. 702(b)-(d). Plaintiffs bear the burden of establishing admissibility by a preponderance of evidence. *Nelson v. Tenn. Gas Pipeline Co.*, 243 F.3d 244, 251 (6th Cir. 2001).

ARGUMENT

Dr. Bithoney’s opinions with respect to both general causation and specific causation are unreliable. On general causation, Dr. Bithoney fails to present sufficient reliable evidence that exposure to lead, even at high levels, is capable of causing [REDACTED]

[REDACTED] in children. Accordingly, Dr. Bithoney should be precluded from testifying that lead can cause or did cause these disorders.

On specific causation, Dr. Bithoney did not perform a sufficiently reliable exposure assessment as is required to “rule in” exposure to lead in Flint’s water as a possible cause of Plaintiffs’ claimed injuries. Dr. Bithoney also did not perform a sufficiently reliable differential etiology to “rule out” likely alternative causes of Plaintiffs’ conditions. So even if Dr. Bithoney’s opinion that exposure to lead caused Plaintiffs’ conditions is admissible, he should nevertheless be precluded from testifying that the specific source of that exposure was Flint drinking water during the water source switch because he cannot reliably rule out other potential sources.

I. Some Of Dr. Bithoney’s General-Causation Opinions Are Unreliable

Under Michigan law, an expert who testifies that exposure to a toxin caused a plaintiff’s injuries must first show general causation—that the toxin at issue is capable of causing the specific type of injuries forming the basis for the plaintiff’s claims. *Powell-Murphy v. Revitalizing Auto Communities Env’tl. Response Trust*, 333 Mich. App. 234, 249-50 (2020); *Goetz v. Grand River Navigation Co.*, No. 16-cv-14489, 2018 WL 4030758, at *3 (E.D Mich. Aug. 23, 2018) (under Michigan law, “the issue is whether the chemicals were capable of causing the victim’s medical conditions”).

It is not enough to show that the toxin is harmful generally; rather, reliable, scientific evidence must show that the toxin in question can cause the plaintiff’s specific disease or disorder. *Nelson v. Tenn. Gas Pipeline Co.*, 1998 WL 1297690,

at *7 (W.D. Tenn. Aug. 31, 1998) (“Safe’s paper on the health impacts of PCBs does not associate the substance with adult central nervous and pulmonary illness. Experts may not rely on studies that do not address the types of diseases at issue.”), *aff’d*, 243 F.3d 244 (6th Cir. 2001).

Applying this standard to Dr. Bithoney’s general-causation opinions in Bellwether I, the Court precluded Dr. Bithoney from opining that lead is capable of causing either [REDACTED] or [REDACTED] Bithoney BWI Order 18-20, PageID.36881-36883. The Court should do the same in this case with respect to Dr. Bithoney’s opinions related [REDACTED]

[REDACTED] Dr. Bithoney does not identify any studies that observed an association between lead exposure and these disorders, much less studies that could support a causal relationship.

Dr. Bithoney contends that it is not necessary to identify studies that have found associations between lead and the specific disorders identified above because lead is associated with cognitive deficits related to those disorders. Rebuttal Report 2-4. The Court rejected that same argument in its Bellwether I ruling and should reject it here. Bithoney BWI Order 20, PageID.36883 (“To be sure, Dr. Bithoney discusses many of the characteristic symptoms of [REDACTED]

[REDACTED] . . . But Dr. Bithoney nowhere explains their relationship to [those diagnoses].”).

Here, as in Bellwether I, Dr. Bithoney’s general-causation opinions are based entirely on studies that found associations between lead and “characteristic symptoms,” Bithoney BWI Order 20, PageID.36883, of the disorders Dr. Jourdan and Dr. Hoffman diagnosed, not associations between lead and the disorders themselves. Other than a single conclusory statement that these disorders are “encompassed by” the effects observed in the studies he cites, Rebuttal Report 4, Dr. Bithoney offers no explanation as to how the studies establish a causal relationship between lead and these various clinical diagnoses.

In fact, Dr. Bithoney stated repeatedly at his deposition that he could not opine on whether the literature he cites supports a causal relationship between lead and Dr. Jourdan’s and Dr. Hoffman’s diagnoses because he did not know what diagnostic criteria applied. Ex. 10, Bithoney Dep. 723:6-727:1, Ex. 11, Rebuttal Dep. 32:21-39:2 ([REDACTED]); Dep. 790:9-793:5, Rebuttal Dep. 45:18-46:17 ([REDACTED]); Dep. 692:12-694:1, Rebuttal Dep. 173:20-175:20 ([REDACTED]); Dep. 824:19-827:21, Rebuttal Dep. 39:3-45:9 ([REDACTED]); Rebuttal Dep. 46:18-50:17 ([REDACTED]). Without understanding the type and magnitude of the [REDACTED] necessary for a diagnosis of Plaintiffs’

[REDACTED], Dr. Bithoney cannot give a reliable opinion about whether low-level lead exposure can cause those disorders.

Because Dr. Bithoney does not present sufficient reliable evidence that lead can cause [REDACTED]

[REDACTED], he should be precluded from testifying that these conditions could have been caused or were caused by Plaintiffs' exposure to Flint water.

II. Dr. Bithoney's Specific-Causation Opinions That Plaintiffs' Conditions Were Caused By Lead From Flint Water Are Unreliable

To prove specific causation in a toxic tort case, a plaintiff must present expert testimony that he or she was exposed to enough of a toxin to cause his or her injuries (an "exposure assessment") and that his or her injuries are not attributable to any other potential cause or source of exposure (a "differential etiology"). Dr. Bithoney's opinions with respect to both of these requirements are unreliable.

A. Dr. Bithoney's Opinion That Plaintiffs Were Exposed To Sufficient Amounts Of Lead From Flint Water To Cause Their Conditions Is Unreliable

To prove specific causation in a toxic tort case, a plaintiff must show that he or she was exposed to the toxic substance at issue and that the amount of exposure was sufficient to induce the complained-of conditions. *Pluck*, 640 F.3d at 677 (plaintiff must show that he or she actually "was exposed to the toxic substance" and that the "level of exposure was sufficient to induce the complained-of medical

condition”); *Powell-Murphy*, 333 Mich. App. at 239, 250 (plaintiff must show “that he or she was, in fact, exposed to the toxin at issue” and must provide evidence of the “specific exposure level”). “A causation expert in a toxic tort case must always support his opinion with a reliable dose assessment.” *Hendrian v. Safety-Kleen Sys., Inc.*, 2014 WL 12658970, at *2 (E.D. Mich. Jan. 23, 2014).

Here, Dr. Bithoney does not present reliable evidence of the level of exposure sufficient to cause Plaintiffs’ specific conditions or present reliable evidence of the amount of exposure Plaintiffs actually experienced.

1. Dr. Bithoney’s Opinions Are Not Based On Reliable Evidence Of The Level Of Exposure Necessary To Cause Plaintiffs’ Various Conditions

The necessary first step of any reliable exposure assessment is identifying the amount or level of exposure that is sufficient to cause the conditions at issue. *Cowan v. Arkema Inc.*, 2007 WL 9698225, at *5-6 (E.D. Mich. Sept. 20, 2007) (“[T]he harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs’ burden in a toxic tort case.”); *see Pluck*, 640 F.3d at 677. Dr. Bithoney’s specific-causation opinion is unreliable because it is not based on sufficient data about the levels of lead exposure that are capable of causing Plaintiffs’ alleged injuries.

First, Dr. Bithoney does not provide scientific evidence sufficient to link all of Plaintiffs’ claimed deficits with low-level exposure to lead. As discussed above,

Dr. Bithoney does not identify studies demonstrating any association between lead and any of the clinical disorders diagnosed by Dr. Jourdan and Dr. Hoffman other than [REDACTED] much less studies identifying the level of exposure sufficient to cause those disorders. And Dr. Bithoney does not identify the level of exposure sufficient to cause a number of the other symptoms that the Plaintiffs supposedly display.

For example, Dr. Bithoney attributes [REDACTED] to Flint water, Rebuttal Report 4, but nowhere does he identify the level of exposure that can cause such a condition. Dr. Bithoney's assumption that, because exposure to lead at one level can cause certain adverse effects, that same level of exposure can cause *any* adverse effect, is at odds with the accepted principle that "a substance may cause different harmful effects in different doses," *Lowery*, 500 Mich. at 1044.

Second, Dr. Bithoney's claims regarding the levels of exposure associated with certain effects do not account for differences in the *magnitude* of those effects. With respect to IQ decrements, for example, Dr. Bithoney states that "for every 1.2 mcg/dL increase in Pb level IQ dropped by one point." *See, e.g.*, Report (E.A.) 14. However, in attributing the diagnosis of [REDACTED] to lead exposure, Dr. Bithoney is effectively claiming that exposure to Flint water [REDACTED]

[REDACTED]

[REDACTED] Yet Dr. Bithoney cites no evidence that the

low levels of lead exposure claimed here were capable of [REDACTED]

[REDACTED] Rebuttal Dep. 39:3-45:9.

Dr. Bithoney's failure to assess Plaintiffs' exposures in light of the magnitude of Plaintiffs' alleged injuries renders his exposure assessment unreliable.

2. Dr. Bithoney Fails To Present Reliable Evidence Of The Amount Of Lead Exposure Attributable To Flint Water

Dr. Bithoney's specific-causation opinions should also be excluded because they are based on an unreliable assessment of Plaintiffs' actual exposures to lead in Flint's water during the crisis. *Powell-Murphy*, 333 Mich. App. at 250 (plaintiff must show "that he or she was in fact exposed to the toxin at issue" and must provide evidence of the "specific exposure level"). The evidence relevant to Dr. Bithoney's exposure assessment falls into three categories: (1) evidence about Plaintiffs' actual water lead levels and water consumption during the crisis; (2) Plaintiffs' blood and bone lead measurements; and (3) epidemiological studies related to Flint residents' potential exposures to elevated water lead levels. This evidence does not support a reasonable inference that Plaintiffs were exposed to sufficient amounts of lead to cause their injuries. If anything, it proves the opposite.

a. Dr. Bithoney Has No Evidence Of Actual Lead Levels In Plaintiffs' Drinking Water

Dr. Bithoney's opinions that Plaintiffs' injuries were caused by their exposure to lead-contaminated water during the water crisis is not supported by any evidence

of the actual amount of lead that was in Plaintiffs’ drinking water. To establish sufficient exposure to support an opinion on specific causation, an expert must present at least “*some evidence* from which the trier of fact can infer [] expos[ure] to harmful levels” of the substance at issue. *Cowan*, 2007 WL 3203249, at *5. As in *Bellwether I*, no such evidence exists in this case—Dr. Bithoney did not perform tests, conduct modeling, or otherwise attempt to estimate the amount of Plaintiffs’ exposures to lead in Flint water.

Dr. Bithoney cites inspection reports identifying lead plumbing components in some of Plaintiffs’ homes at the time of the water crisis. Rebuttal Report 10-13. At best, the presence of these components demonstrates that Plaintiffs’ water *may* have contained some amount of lead; it does not establish that their water *did* contain lead, provide any evidence of the amount of lead that it contained, or support an inference that Plaintiffs were exposed to sufficient lead from Flint’s water to cause their injuries. Indeed, the same Virginia Tech study that Dr. Bithoney relies on as support for his opinion that there were elevated levels of lead in Flint found that the overwhelming majority of homes (83%) did *not* have elevated water lead levels and that the median lead level was only 3.5 ppb. Ex. 12, Kelsey J. Pieper, *Evaluating Water Lead Levels During the Flint Water Crisis*, 52 *Env’t Sci. & Tech.* 8124, 8127 (2018) (finding that only 17% of Flint homes had water lead levels above EPA action

level during the water crisis and that majority of homes with full lead service lines had water lead levels below EPA action level).

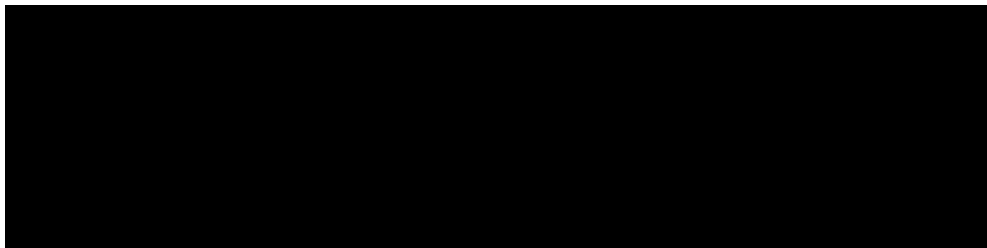
b. Plaintiffs' Blood Lead Levels and Bone Lead Levels.

Next, Dr. Bithoney discusses the bone and blood lead tests for each Plaintiff. Neither of these measures of exposure support Dr. Bithoney's specific-causation opinion.

(1) 

Blood lead measurement is “the preferred method of evaluating lead exposure and its human health effects.” Ex. 13, CDC Nat'l Biomonitoring Program, *Biomonitoring Summary for Lead* (2017)). Dr. Bithoney agreed that blood lead measurement is the best method for evaluating lead exposure and that “most of the data on lead poisoning” is based on blood lead levels. Dep. 890:4-891:8. Yet Dr. Bithoney did not rely on Plaintiffs' blood lead tests in his assessment of their exposures—likely because the results are inconsistent with his belief that all of the children in Flint have been lead-poisoned.

Dr. Bithoney notes that each Plaintiff had his or her blood lead levels tested during or soon after the water crisis. The results of these tests are as follows:



[REDACTED]

Report (E.A.) 2; Report (Y.A.) 4; Report (G.B.) 4; Report (C.D.) 2; Report (R.E.) 8; Report (J.N.) 8; Report (J.S.) 5. Out of the above 13 blood lead tests performed on the individual plaintiffs during or soon after the water crisis, *just one* [REDACTED]—and it occurred long before VNA arrived in Flint. The remaining 12 tests were all [REDACTED]

[REDACTED]

[REDACTED] Dr. Bithoney himself testified that a blood lead level below [REDACTED] is not clinically significant and would not require any follow-up, much less treatment. Dep. 228:4-234:21. Finally, Plaintiffs' blood lead levels were [REDACTED]

[REDACTED] Ex. 14, Hernan Gomez, *Analysis of blood lead levels of young children in Flint, Michigan before and during the 18-month switch to Flint River water*, 57 Clinical Toxicology 792, 795 (2019) (identifying percentage of children with blood lead levels within ranges observed in Plaintiffs). Thus, [REDACTED]

[REDACTED] This data, which represents the best available

method for measuring exposure, is irreconcilable with Dr. Bithoney's theory that Plaintiffs were exposed to substantial amounts of lead in Flint's water.

(2) [REDACTED]

As in Bellwether I, Dr. Bithoney eschews reliance on Plaintiffs' [REDACTED] [REDACTED] and relies instead on their bone lead measurements. These measurements are inherently unreliable for the reasons in VNA's previous and forthcoming motions to exclude Dr. Specht's opinions. Specht BWI Mot. 11-23, ECF No. 343, PageID.21603-21615. They are also irrelevant to evaluating Plaintiffs' exposures for the reasons in VNA's previous motion to exclude Dr. Bithoney. Bithoney BWI Mot. 35-37, PageID.19857-19859. As VNA explained in that motion, bone lead levels represent cumulative exposures and provide no information regarding the source of exposure; they cannot be used to estimate blood lead levels; and there is no median or average level of bone lead in children that can provide a basis for comparison. *Id.*; *see also* Dep. 202:16-203:3, 206:21-207:14, 555:16-558:21, 650:12-658:2; Rebuttal Dep. 97:6-14.

In rejecting VNA's similar argument in Bellwether I, the Court interpreted Dr. Bithoney's report as "reason[ing] back from the bone lead measurements . . . to estimate the peak blood lead level." Bithoney BWI Order 30, PageID.36893. Dr. Bithoney neither performed that calculation nor suggested that such an estimate was possible. But the Court suggested that Dr. Bithoney could extrapolate back from the

Bellwether I plaintiffs’ 2019 bone lead levels to estimate their blood lead levels during the water crisis using data from a study Dr. Bithoney cited in his report. *Id.* (discussing Linda H. Nie et al., *Blood lead levels and cumulative blood lead index (CBLI) as predictors of late neurodevelopment in lead poisoned children*, 16 *Biomarkers* 6, 517-524 (2011)).

In this case, Dr. Bithoney has explicitly stated that such a calculation is not possible. Rebuttal Dep. 53:21-56:22 (“I’m not citing to that at all. I cannot project back to a 30 micrograms per deciliter [blood] level.”); Dep. 537:8-540:24. In fact, Dr. Bithoney testified that if all he has is a bone lead measurement, it is not possible to determine what a blood lead level was *last week*, much less years ago. Rebuttal Dep. 90:8-92:18. Thus, to the extent the Court’s prior ruling was premised on the assumption that Dr. Bithoney could estimate past blood lead levels based on later bone lead levels, that assumption is not grounds for admitting Dr. Bithoney’s opinions in this case.

c. Epidemiological Evidence Of Elevated Water And Blood Lead Levels During The Water Crisis

Unable to marshal reliable plaintiff-specific evidence demonstrating actual exposure to lead in Flint water, Dr. Bithoney again relies heavily on epidemiological studies suggesting that water lead levels and blood lead levels increased after the change in Flint’s water source. *See, e.g.*, Report (E.A.) 5-6. VNA previously explained why epidemiological studies generally cannot provide reliable

information regarding individuals' exposures, as well as why the particular epidemiological evidence Dr. Bithoney cites in his reports is unreliable. *See* Bithoney BWI Mot. 24-29, PageID.19846-19851. These arguments apply with equal force to Dr. Bithoney's reliance on the various epidemiological evidence he cites here.

The Court's prior ruling that Dr. Bithoney "may clearly consider evidence of environmental toxins to determine the most likely source of that exposure," Bithoney BWI Order 28, PageID.36891, misconstrued VNA's argument. Dr. Bithoney is certainly free to *consider* epidemiological studies, but any opinions he offers based on such studies must be reliable. The analytical gap between the data in the studies Dr. Bithoney cites and his conclusions regarding both the amount and source of Plaintiffs' lead exposures is too great to be admissible. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) ("Trained experts commonly extrapolate from existing data. . . . [But] a court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.").

B. Dr. Bithoney Did Not Perform A Reliable Differential Etiology

To prove specific-causation under Michigan law, a toxic-tort plaintiff must produce evidence that "excludes other reasonably relevant potential causes of [the] plaintiff's symptoms." *Powell-Murphy*, 333 Mich. App. at 239. This is known as a "differential etiology" or "differential diagnosis." *Pluck*, 640 F.3d at 678. To

perform a reliable differential etiology, an expert must “make an accurate diagnosis of the nature of the disease”; “reliably rule in the possible causes of it”; and “reliably rule out the rejected causes.” *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 674 (6th Cir. 2010). If the expert does not identify and “reliably rule out the rejected causes,” then “the court must exclude the ultimate conclusion reached.” *Id.*; see Bithoney BWI Mot. 50-51, PageID.19872-19873 (describing case law requiring a reliable differential etiology). Here, Dr. Bithoney claims to have ruled out both potential alternative causes of Plaintiffs’ conditions and potential alternative sources of lead exposure, but his methodology and his conclusions fall short of what a reliable differential etiology requires.

1. Dr. Bithoney Did Not Reliably Rule Out Alternative Causes Of Plaintiffs’ Conditions

As in the Bellwether I case, Dr. Bithoney claims that he relied on a “standard approach” to differential diagnosis that he would use with any patient, even though Dr. Bithoney did not actually examine any of the individual plaintiffs. Rebuttal Dep. 135:1-7. Dr. Bithoney testified that he interviewed Plaintiffs’ parents, reviewed Plaintiffs’ medical records, and evaluated Plaintiffs’ social, educational, and family history. Rebuttal Report 8. The Court accepted this approach as sufficient in Bellwether I, but Dr. Bithoney’s testimony in this case confirms that his methodology is unreliable.

First, Dr. Bithoney's approach omits the crucial first step of any reliable differential etiology—identifying the range of potential causes for a plaintiff's injuries. *See Clausen v. M/V New Carissa*, 339 F.3d 1049, 1057 (9th Cir. 2003) (“The first step in the diagnostic process is to compile a comprehensive list of hypotheses that might explain the set of salient clinical findings under consideration.”). As discussed above (*see pp. 2-3, supra*), Dr. Bithoney opines that Plaintiffs' exposures to lead caused [REDACTED]

[REDACTED] Dr. Bithoney admits that many of these conditions are associated with a wide range of causes and risk factors. Dep. 281:4-7 (“You can name 50 things probably and I would be caught short because I didn't do that. I didn't evaluate them for every single thing that can cause damage.”), 315:8-323:13; Rebuttal Dep. 161:1-4 (“[T]here's so many things that cause all these, you can't list them all.”). Neither his reports nor his deposition testimony explain, for example, how his methodology accounted for idiopathic or unknown causes, Rebuttal Dep. 139:3-7, how he ruled out the possibility that Plaintiffs' deficits were preexisting conditions, Dep. 315:8-323:13, 855:12-857:1 ([REDACTED] [REDACTED]), or how he was able to rule out the possibility that genetics or social environment was the cause of [REDACTED]

[REDACTED]

[REDACTED]

Given the number of different conditions at issue, as well as the wide range of potential causes and risk factors, Dr. Bithoney's failure to employ a systematic approach to identifying, weighing, and ruling out these different alternative causes renders his opinions unreliable. *Higgins v. Koch Development Corp.*, 794 F.3d 697, 705 (7th Cir. 2015) (“[T]o be validly conducted, an expert must systematically ‘rule in’ and ‘rule out’ potential causes in arriving at her ultimate conclusion.”). Dr. Bithoney's bald assurances that he considered and ruled out everything are not enough. *Palmer v. Asarco Inc.*, 2007 WL 2298422, at *8 (N.D. Okla. Aug. 6, 2007) (excluding expert's opinion that low-level lead exposure caused the plaintiff's alleged cognitive deficits because expert's “report [was] completely devoid of any evidence that he performed a differential diagnosis . . . and his deposition provide[d] few specifics about his analytical process”).

Dr. Bithoney's method for ruling out alternative etiologies is no different than taking a standard patient history and patient exam in a clinical setting. Dr. Bithoney confirms that he simply performed what doctors are trained to do with any patient when seeing the patient in a clinical setting. Dr. Bithoney defends his methodology as the “standard approach that [he] would use with any clinical patient.” Rebuttal Dep. 135:4-5. However, multiple courts, including the Sixth Circuit, have explained

that doctors' clinical approach to differential diagnosis is very different from the type of differential etiology that is necessary to prove the *cause* of a disease in *court*. See *Tamraz*, 620 F.3d at 673 (“Th[e] low threshold for making a decision [about the cause of an injury] serves well in the clinic but not in the courtroom, where decision requires not just an educated hunch but at least a preponderance of the evidence.”). “[T]he ability to diagnose medical conditions is not remotely the same . . . as the ability to deduce . . . in a scientifically reliable manner, the causes of those medical conditions.” *Gass v. Marriott Hotel Servs., Inc.*, 501 F. Supp. 2d 1011, 1019 (W.D. Mich. 2007), *rev’d on other grounds*, 558 F.3d 419 (6th Cir. 2009).

Dr. Bithoney’s testimony regarding the scope of his differential diagnosis confirms that it was not intended to determine the *legal* cause of Plaintiffs’ injuries by ruling out alternative etiologies. Instead, his goal was to “rule in” a cause. Explaining why he did not consider various alternative etiologies, Dr. Bithoney testified: “I didn’t need to, I found the cause [lead] and then I stopped.” Rebuttal Dep. 139:15-17. According to Dr. Bithoney’s methodology, “[o]nce you have the answer, don’t keep looking.” Rebuttal Dep. 135:23-24; *see also* Dep. 456:10-17 (“Why do we have to look around for other causes?”). In other words, Dr. Bithoney excluded alternative etiologies once he determined that lead was the cause; he did not determine that lead was the cause only after he had excluded other etiologies. This is the opposite of a reliable differential etiology.

2. Dr. Bithoney Did Not Reliably Rule Out Alternative Sources Of Lead Exposure

Dr. Bithoney intends to testify that lead attributable to Flint drinking water ingested during the 18-month period of the water source switch was the cause of Plaintiffs' conditions. Dr. Bithoney's opinion that this particular source of lead exposure caused Plaintiffs' injuries is unreliable. Dr. Bithoney admits that Plaintiffs were exposed to lead from other sources, yet did not employ a reliable methodology for ruling out these other exposures as the cause of Plaintiffs' conditions. Accordingly, even if Dr. Bithoney is permitted to testify that Plaintiffs' injuries were caused by lead exposure, he should not be permitted to testify that the specific source of that exposure is Flint water that Plaintiffs drank nearly a decade ago.

In *Bellwether I*, Dr. Bithoney insisted that he had ruled out all alternative sources of exposure other than lead in Flint's water supply based on interviews with Plaintiffs' parents. Bithoney BWI Mot. 53-55, PageID.19875-19877. Dr. Bithoney does not claim to have done that here. To the contrary, he admits in this case that everyone is exposed to lead, that there are numerous sources of exposure, such as paint, dust, soil, air, and food, and that lead in water accounts for a relatively small percentage of individuals' typical exposures. Dep. 323:14-326:11, 346:3-349:8, 386:11-22. He also admits that Plaintiffs could have been exposed to lead from these other sources and that these exposures could have affected Plaintiffs. Rebuttal Report 10; Dep. 333:11-334:11 ("It's possible that those things affected these

individual children. But what I also know is that there were additional exposures. All the children lived in homes that got some level of lead.”); *id.* at 520:19-522:4. He similarly concedes that Plaintiffs could have been exposed to lead from other sources both before and after the water source switch. Dep. 673:14-683:10, 683:18-684:17 (“I think that it doesn’t matter what was there preexisting. [REDACTED] [REDACTED]”).

Rather than rule out these exposures, Dr. Bithoney asserted that they were “irrelevant” and “do not matter” because he considers each and every exposure to be a distinct and separate injury. Rebuttal Report 10; Dep. 172:15-20 (“[I]t doesn’t matter what their preexisting lead was or what the quantification was. [I]t’s irrelevant because they were getting poisoned again and again [REDACTED] [REDACTED]”); *id.* at 710:4-20 (“What I’m saying is each exposure adds to acuity and chronicity, and both of those things result in increased damage in testing.”). This explanation as to how he ruled out alternative exposures—*i.e.*, by insisting that all exposures are harmful—cannot support his opinions in this case. This is precisely the type of “each and every exposure” theory that this Court held was inadmissible. Bithoney BWI Order 21, PageID.36884. Dr. Bithoney was not permitted to espouse it in *Bellwether I*, and he should not be permitted to raise it here.

In addition, Dr. Bithoney’s assertion that alternative exposures are irrelevant because all exposures cause harm ignores the fact that the harms he attributes to

Plaintiffs' lead exposures are [REDACTED]

[REDACTED] If the only "injury" that Dr. Bithoney can reliably attribute to Plaintiff's exposure is subclinical damage to neurons or axons in the brain, he should not be permitted to offer the opinion that Flint water caused [REDACTED] [REDACTED] diagnosed by Dr. Jourdan and Dr. Hoffman.

Because he did not employ a "reliable" and "scientific" differential etiology to rule out causes other than lead, *Tamraz*, 620 F.3d at 673-74, Dr. Bithoney's specific-causation opinions should be excluded, *see Byrd v. Union Pac. R.R. Co.*, 453 F. Supp. 3d 1260, 1271 (D. Neb. 2020) ("To pass muster under *Daubert*," an expert "must be able to say more than that 'Ronald was exposed to diesel exhaust; some unknown amount of diesel exhaust can cause cancer; therefore exposure to diesel exhaust caused Ronald's lung cancer.' This is the type of opinion that is connected to the data only by the ipse dixit of the expert and need not be accepted by the court").

CONCLUSION

The Court should grant VNA's motion to exclude the opinions and testimony of Dr. William Bithoney discussed above.

Respectfully submitted,

**CAMPBELL, CONROY &
O'NEIL P.C.**

MAYER BROWN LLP

By: /s/ James M. Campbell
James M. Campbell
Alaina N. Devine
20 City Square, Suite 300
Boston, MA 02129
(617) 241-3000
jmcampbell@campbell-trial-lawyers.com
adevine@campbell-trial-lawyers.com

By: /s/ Michael A. Olsen
Michael A. Olsen
71 S. Wacker Dr.
Chicago, IL 60606
(312) 701-7120
molsen@mayerbrown.com

*Attorneys for Veolia North America, LLC, Veolia North America, Inc., and
Veolia Water North America Operating Services, LLC*

Dated: April 3, 2024